

## CLAIM AMENDMENTS

1           1. (Currently amended) An apparatus for applying a thin  
2 film coating to a substrate comprising:

3           a vacuum chamber connectable to a pump adapted to  
4 evacuate said chamber;

5           at least one rotatable crucible in said chamber;

6           a substrate holder mounted for rotation in said chamber  
7 receiving a substrate to be coated and juxtaposed with said  
8 crucible;

9           a mechanical shutter in said chamber interposable between  
10 said crucible and said substrate;

11          a high-energy electron beam source for heating a  
12 component of a coating to be deposited upon said substrate in said  
13 crucible;

14          a radio frequency or pulsed direct current source  
15 connectable connected to said substrate holder for producing a  
16 plasma around said substrate and imparting a self-bias to said  
17 substrate holder poling said substrate holder cathodic;

18          means for feeding a gas mixture to said chamber including  
19 at least one gas reactive with said component to form a coating on

20 said substrate; and  
21 a low energy electron source independent of said high  
22 energy electron beam source for ionizing said component ~~to reduce~~  
23 and reducing said self-bias by at least 80% and deposit a reaction  
24 product of said component and said at least one gas on said  
25 substrate, said shutter being movable from ~~[[one]]~~ said at least  
26 one rotatable crucible and said substrate to permit ionization of  
27 said component.

Claim 2 (cancelled).

1 3. (Currently amended) The apparatus defined in claim  
2 ~~[[2]]~~ 1 wherein said chamber is formed with an insulated feed-  
3 through for connecting ~~said source~~ one of said sources to said  
4 substrate holder.

Claim 4 (cancelled).

1 5. (Currently amended) The apparatus defined in claim  
2 ~~[[4]]~~ 3 wherein said crucible is electrically heated.

Claim 6 (cancelled).

1           7. (Currently amended) The apparatus defined in claim  
2   [[4]] 3 wherein said source is a radio frequency source.

3           Claim 8 (cancelled).

4           9. (Currently amended) The apparatus defined in claim  
5   [[4]] 3, further comprising another crucible containing a  
6   respective component capable of forming a reaction product which  
7   can be deposited on said coating.

Claim 10 (cancelled).

Claim 11 (cancelled).